

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/012919 A1

(51) International Patent Classification⁷: G01P 3/49,
3/488, 3/48

(74) Agents: HOUJIIS, David et al.; Honeywell International Inc., 101 Columbia Road, P.O. Box 2245, Morristown, NJ 07960 (US).

(21) International Application Number:

PCT/US2004/023440

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TI, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 21 April 2004 (21.04.2004)

(25) Filing Language: English

(26) Publication Language: English

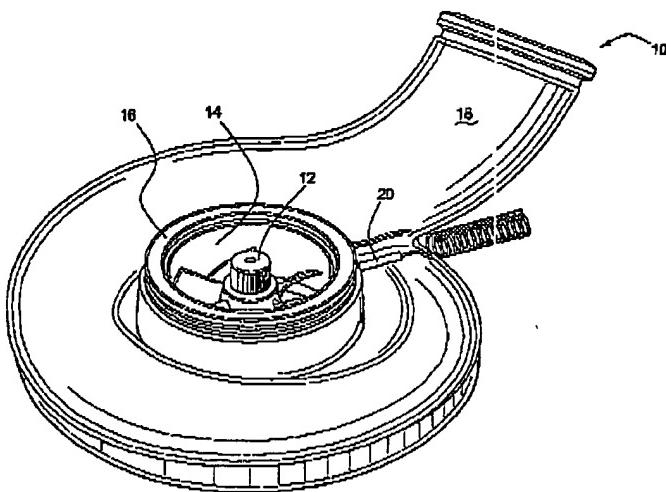
(30) Priority Data:
10/627,420 25 July 2003 (25.07.2003) US

(71) Applicant (*for all designated States except US*): HONEYWELL INTERNATIONAL INC. [US/US]; 101 Columbia Road, P.O.Box 2245, Morristown, NJ 07960 (US).
(72) Inventors; and
(75) Inventors/Applicants (*for US only*): STOLFUS, Joel, D. [US/US]; 2486 Royal Oaks Drive, Freeport, IL 61032 (US). BUSCH, Nichols, R [US/US]; 1741 Ridge Drive, Freeport, IL 61032 (US).

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, EE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BR, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: MAGNETORESISTIVE TURBOCHARGER COMPRESSOR WHEEL SPEED SENSOR



(57) Abstract: A turbocharger includes a cylindrical wall and a non-ferromagnetic compressor wheel within the cylindrical wall. The non-ferromagnetic compressor wheel has fins. A magnetoresistive sensor housing is threaded through the cylindrical wall and houses a permanent magnet and at least one magnetoresistor. The permanent magnet is positioned so as to induce eddy currents on the 10 fins. The permanent magnet magnetically biases the magnetoresistor, and the magnetoresistor senses rotation of the non-ferromagnetic compressor wheel.

WO 2005/012919 A1